

(-)-Epigallocatechin gallate Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: (-)-Epigallocatechin gallate

Catalog No.: CFN99569

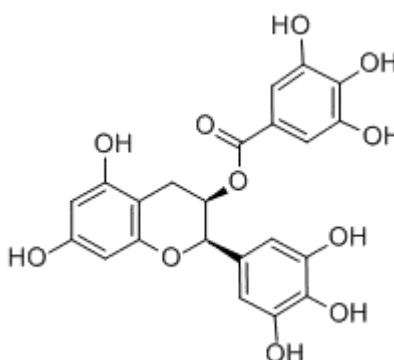
Cas No.: 989-51-5

Purity: >=98%

M.F: C₂₂H₁₈O₁₁

M.W: 458.38

Physical Description: White powder



Synonyms: (2R,3R)-2-(3,4,5-trihydroxyphenyl)-3,4-dihydro-1(2H)-benzopyran-3,5,7-triol 3-(3,4,5-trihydroxybenzoate); (-)-cis-3,3',4',5,5',7-Heahydroxy-flavane-3-gallate; (-)-cis-2-(3,4,5-Trihydroxyphenyl)-3,4-dihydro-1(2H)-benzopyran-3,5,7-triol 3-gallate; (-)-cis-3,4-Dihydro-5,7-dihydroxy-2-(3,4,5-trihydroxyphenyl)-1(2H)-benzopyran-3-yl gallate hydrate; Tea Catechin.

[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Cosmetic research;
4. Synthetic precursor compounds;
5. Intermediates & Fine Chemicals;
6. Aromatics;
7. Others.

[Source]

The wood of *Acacia catechu* (L.F.) Willd.

[Biological Activity or Inhibitors]

Green tea polyphenols, especially the catechin, (-)-epigallocatechin gallate (EGCG), have been proposed as a cancer chemopreventative based on a variety of laboratory studies, EGCG can significantly reduce food intake, body weight, blood levels of testosterone, estradiol, leptin, insulin, insulin-like growth factor I, LH, glucose, cholesterol, and triglyceride, as well as growth of the prostate, uterus, and ovary, suggests that the effect of EGCG was independent of an intact leptin receptor; growth inhibition and regression of human prostate and breast tumors in athymic mice treated with EGCG as well as play a role in the mechanism by which EGCG inhibits cancer initiation and promotion in various animal models of cancer.^[1]

Topical applications of (-)-epigallocatechin gallate (EGCG) can inhibit carcinogenesis and selectively increase apoptosis in UVB-induced skin tumors in mice.^[2]

Epigallocatechin gallate can repress hepatic glucose production, it attenuates diet-induced obesity in mice by decreasing energy absorption and increasing fat oxidation. ^[3,4]

(-)-epigallocatechin gallate has protective effects against β A-induced neuronal apoptosis through scavenging reactive oxygen species, which may be beneficial for the prevention of Alzheimer's disease.^[5]

(-)-Epigallocatechin gallate and polyphenon E inhibit growth and activation of the epidermal growth factor receptor and human epidermal growth factor receptor-2 signaling pathways in human colon cancer cells. ^[6]

Epigallocatechin gallate is known as a potent anti-bacterial agent, has anti-tumor promoting, anti-inflammatory, anti-oxidative and antiviral activities, it has inhibitory effects of EGCG on the life cycle of human immunodeficiency virus type 1 (HIV-1).^[7]

[Solvent]

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

[HPLC Method]^[8]

Mobile phase: Methanol -0.1% Acetic acid H₂O=25:75 ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 278 nm.

[Storage]

2-8°C, Protected from air and light, refrigerate or freeze.

[References]

- [1] Kao Y H, Hiipakka R A, Liao S. *Endocrinology*, 2000, 141(3):980-7.
- [2] Lu Y P, Lou Y R, Xie J G, *et al. P. Natl. Acad. Sci. U.S.A.*, 2002,99(19):12455-60.
- [3] Klaus S, Pültz S, Thönereineke C, *et al. Int. J. Obesity*, 2005, 29(6):615-23.
- [4] Waltner-Law M E, Wang X L, Law B K, *et al. J. Biol. Chem.*, 2002, 277(38):34933-40.
- [5] Choi Y T, Jung C H, Lee S R, *et al. Life Sci.*, 2001, 70(5):603-14.
- [6] Shimizu M, Deguchi A, Lim J T, *et al. Clinical Cancer Research An Official Journal of the American Association for Cancer Research*, 2005, 11(7):2735-46.
- [7] Yamaguchi K, Honda M, Ikigai H, *et al. Antiviral Res.*, 2002, 53(1):19-34.
- [8] Li Y H, Tian H, Chen J Y. *China Pharmacy*, 2012, 23(23):2178-9.

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